Subject: speaker ohms
Posted by Calvin on Fri, 03 Sep 2004 17:25:03 GMT
View Forum Message <> Reply to Message

Why are there different ohms speakers? Why isn't there a standard that all use?/Calvin

Subject: Re: speaker ohms
Posted by Bill Fitzmaurice on Fri, 03 Sep 2004 17:57:41 GMT
View Forum Message <> Reply to Message

The standard is 8 ohms, but some applications work better with different values. 4 ohm is usually used for auto sound where the supply voltage is lower and 4 ohm drivers increase sensitivity. 4 or 6 ohms are sometimes used in home audio also to gain additional sensitivity (if the amp will handle the increased aperage draw). 16 ohms is often seen in pro-audio horn drivers, which allows easier level matching with lower sensitivity cone drivers. 4 ohm and 16 ohm drivers are often used with multiple driver speakers to make it easier to gain a total impedance of 8 ohms (or what ever is desired).

Subject: Details on 16 ohms please
Posted by GarMan on Sat, 04 Sep 2004 23:55:48 GMT
View Forum Message <> Reply to Message

Hey Bill,Can you elaborate on the use of 16 ohms in pro-audio horns please. An example would be great. thanks,Gar.

Subject: Re: Details on 16 ohms please
Posted by Bill Fitzmaurice on Sun, 05 Sep 2004 12:50:07 GMT
View Forum Message <> Reply to Message

Sure- a JBL 2426. This is available in both 8 and 16 ohm versions, and you usually see 16 used. Since this has 110 dB sensitivity it's only logical to use a 16 ohm coil to better match it with a 100dB woofer section. Another advantage here is that as you raise the impedance you lower the crossover point, or, conversely, lower the size of the crossover components to maintain the same crossover frequency, which means that for a 16 ohm driver versus 8 ohm the crossover component sizes are halved, which saves serious money in the case of high-power high order crossovers.

Subject: split impedance
Posted by Oberon on Sun, 05 Sep 2004 15:22:55 GMT
View Forum Message <> Reply to Message

Some amplifiers don't like impedance changes like this. If biamped, no problem but if not it might be depending on what amp is used.

Subject: Re: split impedance
Posted by Bill Martinelli on Sun, 05 Sep 2004 15:42:13 GMT
View Forum Message <> Reply to Message

Please explain how the amplifier can see or sense individual components past the passive crossover? I always thought the amp would only see the total load and impeadance that is given at the point of entry, the crossover.

Subject: Re: split impedance
Posted by Oberon on Sun, 05 Sep 2004 16:58:10 GMT
View Forum Message <> Reply to Message

The crossover is a splitter that hands off to the drivers. Whatever impedance they are is seen by the amp in their range.

Subject: Re: split impedance
Posted by Bill Fitzmaurice on Mon, 06 Sep 2004 12:27:44 GMT
View Forum Message <> Reply to Message

True, but as long as the load impedance is within the amps ability to drive it the amp doesn't care. Differing impedances would bother a constant current amp, so amps are constant voltage devices for just that reason. Besides, impedance is always a nominal figure. The typical in-use impedance of an 8 ohm woofer actually runs from a low of perhaps 5 ohms to a high of 50 ohms or more, depending on the frequency at which you measure.

Subject: Re: split impedance
Posted by Oberon on Mon, 06 Sep 2004 15:39:07 GMT

View Forum Message <> Reply to Message

Low DF amps are what I'm talking about. Amps with low DF don't like impedance changes.
http://www.classic-audio.com/marantz/mdampingfactor.html

Subject: Re: split impedance
Posted by Bill Martinelli on Tue, 07 Sep 2004 01:01:04 GMT
View Forum Message <> Reply to Message

Interesting read. Thanks for the link. I've always thought of the crossover as a combiner as much as a splitter. Never ran into problems with various impeadance drivers before.Bill

Subject: Re: split impedance
Posted by Oberon on Tue, 07 Sep 2004 18:20:15 GMT
View Forum Message <> Reply to Message

Here is another good'n:
http://www.melhuish.org/audio/article5.html